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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,022	02/14/2002	John Rhoades	032658-025	5634

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EXAMINER

FILIPCZYK, MARCIN R

ART UNIT PAPER NUMBER

2161

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/074,022	<b>Applicant(s)</b> RHOADES, JOHN	
	<b>Examiner</b> Marc R Filipczyk	<b>Art Unit</b> 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2002 and 10 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 26-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/17/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Action is responsive to Applicant's response filed January 10, 2005. As a result of Examiner's Restriction/Election requirement, Applicants elected Group I, claims 1-25 and claims 26-36 are withdrawn from consideration.

**To expedite the process of examination Examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. amendments, 35 U.S.C. 112, objections and the like) set forth by the Examiner that Applicants provide and link to the most specific page and line numbers of the disclosure where the best support is found (see 35 U.S.C. 132).**

### ***Drawings***

The drawings are objected to because the figures although labeled with numerical identifiers do not comprise appropriate text identification (i.e., engine, memory). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 21 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth whether the invention is within the technological arts.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the “progress of science and the useful arts” (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a method claim to pass muster, the recited method must somehow apply, involve, use, or advance the technological arts.

In the present case, independent claims 21 and 22 only recite an abstract idea. The recited steps of merely looking up a value do not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of identifying a value.

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Since the claimed invention, as a whole, is not within the technological arts as explained above, claims 21 and 22 are deemed to be directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the **first paragraph** of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding method claims 21 and 22, the subject matter of looking up a value was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. It is not clear from the specification how the above can be accomplished without the use of any computer system components.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the **second paragraph** of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Regarding claims 21 and 22, the segment of, “method looking up a value” is indefinite. It is not clear how looking up a value is achieved without the use of any computer system components. Second, “the input key” is indefinite. There is insufficient antecedent basis for this limitation in the claims. Further regarding claim 21, the step of “steps (a), (b) and (c) are carried out concurrently” is indefinite. It is not clear how receiving a key value, comparing it and outputting a result value can be done concurrently. Further regarding claim 22, the term, “assembling” is indefinite. It is not clear what if any assembling takes place. Last regarding claim 22, the step of “steps (b) to (d) are carried out concurrently” is indefinite. It is not clear how comparing, outputting and assembling can be done concurrently.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greene (U.S. Patent No 6,631,419) in view of Wilkinson III et al (U.S. Patent No. 6,014,659).

Regarding claims 1 and 21-25, Greene discloses a system and method, wherein a look up engine (fig. 1, 106, Greene) comprising a storage means for storing a plurality of entries (fig. 1, 108, Greene), each entry comprising a value and an associated key value (col. 7, lines 32-34, Greene), such that, in operation, a look up is carried out by outputting a value which is associated

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with the stored key value which matches an input key value (Fig. 1, values D1, D2 and col. 4, lines 49-52, col. 7, lines 34-36, Greene), the look up engine being capable to perform multiple look ups by cascading multiple systems (fig. 1, 106 and 108, and col. 7, lines 10-18 and col. 31, lines 60-67, Greene), but does not explicitly teach the look up engine comprises a plurality of look up state machines connected in parallel to enable multiple look ups concurrently.

However, search engines are notoriously well known to comprise multiple state machines to handle multitasking. For instance, Wilkinson discloses prefix matching database searching (see title and abstract, Wilkinson) where he teaches a number of registers and elementary state machines operating concurrently, collectively known as a search engine, to directly access memory (fig. 3, item 40, col. 8, lines 2-4 and col. 15, lines 21-25, Wilkinson). Hence, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Greene and Wilkinson systems by modifying Greene's look up engine to include the plurality of look up state machines taught by Wilkinson to support Greene's multiple input strings and multiple memories to operate concurrently as suggested by Greene (col. 31, lines 60-64, Greene) and taught by Wilkinson.

Regarding claim 2, Greene/Wilkinson teach entries are stored in a trie structure (col. 7, lines 27-37, Wilkinson).

Regarding claim 3, Greene/Wilkinson teach the trie structure is a PATRICIA trie structure (col. 3, lines 15-22 and 30-58).

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Regarding claim 4, Greene/Wilkinson teach input and output buffers (fig. 1, item 102 and col. 6, lines 47-56, Greene).

Regarding claims 5 and 6, Greene/Wilkinson teach distributing and collecting the input key values and respective outputs (fig. 1, items 14, 20, 22 and 40, col. 9, lines 63-66, Wilkinson).

Regarding claims 7 and 8, Greene/Wilkinson teach the length of the look up values and key values is fixed and/or variable (fig. 17 and col. 2, lines 7-21, Greene).

Regarding claim 9, Greene/Wilkinson teach tagging keys (col. 26, lines 32-49, Greene).

Regarding claim 10, Greene/Wilkinson teach storing an identity of the requestor such that the output value is sent to the correct location (fig. 3, item 14, Wilkinson).

Regarding claims 11-14, Greene/Wilkinson teach a type of error and identifying the location of bits that are mismatched (fig. 5, BIT MASK, and col. 31, lines 14-22, Wilkinson).

Regarding claims 15-20, Greene/Wilkinson teach internal/external memory and partitioning the memory comprising plurality of entries (fig. 1, item 108: M1, M2, M3 and col. 7, lines 14-18, Greene).



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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc R Filipczyk whose telephone number is (571) 272-4019. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MF  
March 31, 2005

  
**FRANTZ COBY**  
**PRIMARY EXAMINER**